BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Application of California-American Water Company (U210W) for Authorization to Increase its Revenues for Water Service by $55,771,300 or 18.71% in the year 2024, by $19,565,300 or 5.50% in the year 2025, and by $19,892,400 or 5.30% in the year 2026.	Application 22-07-XXX

DIRECT TESTIMONY OF CHRISTOPHER COOK

(FINAL APPLICATION)

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Dated: July 1, 2022

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I. INTRODUCTION

Q1. Please provide your name and business address.

A1. My name is Christopher Cook. My business address is 511 Forest Lodge Road, Suite 100, Pacific Grove, CA 93950.

Q2. By whom are you employed and in what capacity?

A2. I have been employed by California-American Water Company ("California American Water" or the "Company") since August 2015. My job title is Central Division Director of Operations.

Q3. What are your responsibilities?

A3. As the Central Division Director of Operations, I have overall responsibility for customer service and billing; conservation; operation of one reservoir; water supply components, including six treatment plants and multiple wells; an aquifer storage and recovery project; transmission and distribution systems; the Sand City Desalination Plant; eight (8)

wastewater treatment plants; as well as coordinating with multiple governmental agencies and stakeholder groups within the Central Division.

Q4. Please describe your educational background.

A4. I graduated in 2003 with a Bachelor of Science degree in Mechanical Engineering from the University of California, San Diego. In 2014, I earned a Master of Business Administration from Santa Clara University, with a dual concentration in Managing Innovation & Technology and Leading People & Organizations.

Q5. Please describe your professional experience.

A5. In 2003, I joined the United States Peace Corps, as an Education Volunteer. During my two years of volunteer service in Guinea, West Africa, my primary task was to teach physics in French. One of my secondary tasks included grant writing.

In 2005, I joined Guidant in Santa Clara, California, as a Research and Development Engineer. While at Guidant, I worked on developing a next generation medical device and a pilot production line for manufacturing.

In 2006, I joined CMS Collaborative, Inc. in Santa Cruz, California as an Engineer. I worked on designing the mechanical, electrical, and controls of large-scale water feature projects. In 2009, I was promoted to Associate Principal and Project Manager. In this role, I oversaw design, permitting, and construction administration of numerous national and international projects.

In 2015, I joined California American Water as an Assistant Engineering Manager, where I was responsible for assisting in managing the delivery of capital projects in the district, including components of the Monterey Peninsula Water Supply Project ("MPWSP"). I became Engineering Manager of Project Delivery for the Central Division in 2016. In

this role, I managed the Central Division engineering team's capital investment projects and was the Lead Project Manager for the MPWSP.

In 2018, I took on my current role as Director of Operations for the Central Division.

Q6. Are you a registered professional engineer?

A6. Yes. Since 2008, I have been a registered professional engineer (Mechanical) in California.

Q7. Are you a member of any boards or professional associations?

A7. Yes. I am a member of the Board of Directors of the Seaside Groundwater Basin Watermaster, a member of the Board of Directors of the Carmel River Watershed Conservancy, and a member of the American Water Works Association.

Q8. Have you previously testified before the California Public Utilities Commission (the "Commission")?

A8. Yes. I testified in connection with Application ("A.") 12-04-019, California American Water's application for a Certificate of Public Convenience and Necessity for the MPWSP. I also submitted testimony in connection with A.19-07-004, California American Water's Test Year 2021 general rate case ("GRC"), and A.19-07-005, California American Water's application for a moratorium in its Laguna Seca subsystem.

II. PURPOSE OF TESTIMONY

Q9. What is the purpose of your testimony?

A9. To cover background and critical needs relating specifically to the Central Division. This includes discussing the general characteristics of the Central Division and its associated subsystems. After a general description of the existing system, I give an overview of the current source water restrictions in the Central Division, along with a summary and status

update on source water projects expected to help mitigate immediate impacts of drought and eventually allow for a long-term sustainable supply of water to the Central Division. I will also summarize the water quality in Central Division water systems. The Direct Testimony of Garry Hofer, Section IV, will also give an overview of water quality.

Q10. The above topics are primarily related to Central Division water systems, are there any additional topics related specifically to wastewater that will be covered in your testimony?

A10. Yes, I will give an update on the operational challenges for our Monterey District wastewater systems, primarily due to increasing regulatory requirements that will result in the need for significant capital projects.

III. CENTRAL DIVISION WATER OPERATIONS

A. Background

Q11. Please describe the Central Division.

A11. California American Water's Central Division is made up of several distinct water and wastewater systems. The separate water systems are Monterey Main (including Bishop and Ryan Ranch), Hidden Hills, Toro, Ambler Park, Ralph Lane, Chualar, and Garrapata. The wastewater systems are Las Palmas, Indian Springs, Pasadera, Carmel Valley Ranch, Oak Hills, Spreckels, White Oaks, and Village Greens. The wastewater systems are currently considered separate from Central Division water systems for ratemaking purposes.

Historically, water supply for the Central Division was pumped from two main sources: (1) wells pumping from the Carmel Valley alluvial aquifers located along the Carmel River, and (2) Seaside Groundwater Basin native groundwater pumped via mid-depth and deep wells. Production from these sources is limited by government orders, court adjudications, and annual rainfall amounts. The two key limitations on production are:

(1) the State Water Resources Control Board ("SWRCB") Order No. WR 95-10 ("SWRCB Order 95-10") and WR 2009-0060 ("SWRCB Order 2009-0060"), and WR 2016-0060 ("SWRCB Order 2016-0060"), collectively the "CDO" and (2) the Seaside Groundwater Basin Adjudication, Monterey Superior Court Case No. M66343 ("Seaside Basin Groundwater Adjudication" or the "Adjudication").

1. SWRCB Orders

Q12. How do the SWRCB Orders limit water production?

A12. In SWRCB Order 95-10, the SWRCB found that California American Water did not have the legal right to about 10,730 acre-feet of its then current yearly diversion from the Carmel River, and that the diversions were having an adverse effect on the public trust resources of the river. In 2009, the SWRCB issued a CDO requiring California American Water to cease all illegal diversions from the Carmel River no later than December 31, 2016.[1] On July 19, 2016, the SWRCB adopted SWRCB Order 2016-0016, amending the CDO, to require that unauthorized diversions end by December 31, 2021. California American Water must replace this reduction in source water with a consistent and reliable water supply to maintain existing service to its Monterey Main System customers.

As a result of these water production restrictions, there is currently a moratorium on new service connections for the Monterey Main System served by Carmel River source water.

2. Seaside Groundwater Basin Adjudication

Q13. How does the Seaside Groundwater Basin Adjudication limit water production?

A13. In 2006, a judgment, entered by the Monterey Superior Court, adjudicated and limited rights to produce groundwater from the Seaside Groundwater Basin and implemented a physical solution for the management and protection of the basin. The Adjudication ordered mandatory reductions of the operating yield triennially beginning in 2009. Under

[1] SWRCB Order 2009-0060.

the Adjudication, allowed operating yield of the wells within California American Water's Laguna Seca system, which overlies the Seaside Groundwater Basin, was reduced to zero in 2018. This limit applies to the following California American Water systems utilizing the Laguna Seca system: Ryan Ranch, Hidden Hills and Bishop.

3. Recent Source Water Projects

Q14. Since 2000, what additional source water projects have come on-line to address the requirements to reduce pumping from the Carmel River and Seaside Groundwater Basin?

A14. Three source water projects have been implemented since 2000 and are described below.

1. Aquifer Storage and Recovery ("ASR") is a project that allows for wells in the Carmel River alluvial aquifer to pump excess Carmel River water that would otherwise flow out to the ocean. This captured river water is then transferred through existing conveyance facilities, including the Monterey Pipeline and Pump Station ("MPPS")[2], and stored in the Seaside Groundwater Basin for later extraction. This project is already operating with two ASR well sites. Ownership and operations of this source water project have various components split between California American Water and the Monterey Peninsula Water Management District ("MPWMD").

2. The Sand City Desalination Plant is a source of production for the Monterey Main System via vertical intake wells along the beach. There is a maximum, permitted production of 300 acre feet ("AF"), with 206 AF being allocated to supplying new uses within Sand City and the remaining 94 AF to offset California American Water's Monterey Main System

2 D.16-09-021, *Decision on California-American Water Company's Application for Approval of the Monterey Peninsula Water Supply Project Specifically in Regards to Phase 2*, adopted in September 2016, authorized construction of the MPPS "to facilitate optimal use of the ASR and GWR." GWR (groundwater replacement) is now known as Pure Water Monterey.

supplies. With currently only approximately 14 new services installed in Sand City, the majority of water produced from the Sand City Desalination plant is used to offset pumping from the Seaside Groundwater Basin and Carmel River.

3. Pure Water Monterey ("PWM") is an advanced water purification project that recycles water from various wastewater sources for indirect potable water reuse. The PWM purification facility is owned by Monterey One Water ("M1W") and MPWMD and is located at the M1W Wastewater Treatment Facility. The recycled and purified production water from the PWM project is injected and stored in the Seaside Groundwater Basin via several injection wells owned by M1W. The Seaside Groundwater Basin acts as both an underground reservoir and additional environmental barrier before water is extracted by California American Water, after a two-month retention timeline, via existing ASR extraction wells located in the basin and the Monterey Pipeline. Through a water purchase agreement, M1W and MPWMD have committed to providing 3,500 acre-feet per year ("AFY") of recycled water to the Monterey Main System in order to offset the Carmel River source water by the same amount. The project has been injecting PWM water into the Seaside Groundwater Basin since the end of 2019.

B. Water Quality

Q15. Can you summarize the water quality in the Central Division water systems?

A15. The Central Division uses groundwater as its primary source water. The source water goes through treatment that includes eight (8) treatment plants with processes such as iron and manganese removal, arsenic removal, desalination, and corrosion control. The Central Division water system is fully compliant with Environmental Protection Agency

("EPA") regulations. For the Monterey Main System, Division of Drinking Water ("DDW") conducted a sanitary survey in 2021. The sanitary survey report has not yet been received by California American Water. There are currently no outstanding issues with any DDW sanitary survey findings from any of the Central Division water systems.

Q16. Can you summarize any current and upcoming regulatory impacts in the Central Division water system?

A16. Yes, there are several new regulatory requirements for our water system that could potentially impact our production. The first is Per- and Polyfluoroalkyl Substances/ Perfluorooctanesulfonic Acid ("PFAS/PFOA") detections in our Playa Well in the Seaside Groundwater Basin. PFAS/PFOA have been detected above notification levels, which are 5.9 ppt for PFOA and 8.3 ppt for PFOS, but below response levels. As a result, operations tries to limit any production from this well. Additionally, as mentioned above, effective January 1, 2022, California American Water's Carmel River diversions are limited to authorized limits, resulting in a shift of the majority of the Central Division's source water from the Carmel River to the Seaside Groundwater Basin. Further, DDW has stated that one of the Seaside Groundwater Basin wells relied upon for extraction of water, ASR Well #1, is not permitted to extract water until it can be shown that recycled water from the PWM Project reaching that well complies with the minimum underground retention time requirements under recycled water regulations.

Q17. Is it possible that continued inactivation of ASR Well 1 extraction could result in rationing?

A17. Yes. The inability to meet elevated summer demand with extractions from the Seaside Groundwater Basin also poses a risk of triggering elevated conservation and rationing stages of MPWMD's Conservation and Rationing Plan and California American Water's Commission approved Rule 14.1.1 including Stage 4: Water Rationing.

C. Water Supply Mix Challenges and Special Request No. 2

Q18. What is California American Water requesting in Special Request #2?

A18. As explained in the Direct Testimony of Jeffrey Linam, Section IV, Special Request #2 seeks Commission authorization to (1) establish incremental cost balancing accounts ("ICBAs") for its San Diego and Ventura County districts and (2) establish full cost balancing accounts ("FCBAs") for its other districts. California American Water recommends that the transition from the current modified cost balancing account ("MCBA") to the ICBAs/FCBAs be implemented effective on the date new rates are established in this GRC.

Q19. Is there other testimony being provided by California American Water in this GRC in connection with Special Request #2 for the establishment of ICBAs and FCBAs in the districts specified?

A19. Yes, in Section IV of the Direct Testimony of Jeffrey T. Linam, Mr. Linam explains the justification for the ICBAs and FCBAs in the respective districts and outlines the proposed ratemaking basis for Special Request #2. In Section III of the Direct Testimony of Garry Hofer, Mr. Hofer addresses the challenges associated with managing the water supply mix in the Los Angeles, Sacramento, and Larkfield districts, which justifies the establishment of a FCBA for that district.

Q20. Please describe the challenges associated with managing the water supply mix in the Monterey County District.

A20. The historic major supplies of Carmel River and Seaside Groundwater Basin have seen significant reductions in the last decade based on CDO pumping reductions and the Seaside Groundwater Basin adjudication's tri-annual ramp downs. Both Sand City Desalination and ASR have also had variable results over the last decade. PWM only started providing California American Water with injected PWM water in water year "WY" 19/20.

Q21. Do the above changes in source water trends have an impact on Central Division daily operations?

A21. Yes, this has required a significant change in pumping operations and overall conveyance planning. The majority of the Monterey Main System is now supplied from Seaside Groundwater Basin pumping from the north, rather than the Carmel River source water from the south. Completion of the new San Carlos Pump Station and Forest Lake Pump Station will further extend the reach of Seaside Groundwater Basin source waters to areas of Pebble Beach, Carmel, and Carmel Valley that are currently served by Carmel River water. This shift in pumping and conveyance of source waters is critical for staying within new source water limits.

Q22. With the reductions on historic supplies and current drought, are there any immediate plans to further maximize existing sources of supply?

A22. Yes, as mentioned in Sections XI and XV of the Direct Testimony of Ian Crooks, California American Water is working on several new well drilling projects for maximizing production related to ASR, Sand City Desalination, and PWM. Additionally, as described below in Q/A 24, California American Water is working with M1W and MPWMD to increase the current PWM source water from 3,500 AFY to 5,750 AFY.

Q23. Are there new source water projects that when implemented will help meet the water supply needs of the community?

A23. Yes, California American Water currently has a two-step approach to meeting the water supply needs of the Monterey Main System. The first interim step is an expansion of PWM. On November 29, 2021, California American Water filed A.21-11-024 to obtain approval to enter into the Amended and Restated Water Purchase Agreement ("Amended WPA") for PWM. Under the Amended WPA, California American Water's allotment would be increased from 3,500 AFY to 5,750 AFY per year once the PWM project is completed. PWM requires additional source water and facilities to collect, treat, and

convey the projected additional 2,250 AFY of recycled water, with 700 AFY being allocated to Seaside Groundwater Basin replenishment. The second step is a desalination plant, as part of the MPWSP, because PWM does not eliminate the need for desalination as part of an overall diverse and sustainable water supply.

Q24. Is there currently any flexibility in terms of limiting the amount of water one produces from each supply, while still meeting customer demand during times of extended drought?

A24. No, currently operations must maximize extraction of all available sources of water to mitigate over-pumping during drought.

Q25. Does California American Water have the option of prioritizing the purchasing or producing source water by cost?

A25. No. Based on the current deficit in available source water, we do not have the option of prioritizing the purchasing or producing source water by cost.

IV. CENTRAL DIVISION WASTEWATER OPERATIONS

A. Background

Q26. Can you describe the wastewater facilities California American Water operates in the Central Division?

A26. California American Water operates eight (8) separate wastewater facilities as part of its Monterey Waste Water District: Las Palmas, Indian Springs, Pasadera, Carmel Valley Ranch, Oak Hills, Spreckels, White Oaks, and Village Greens. Our eight (8) facilities consist of three (3) tertiary treatment systems with conventional treatment process for recycled water, one (1) secondary process with activated sludge and disinfection, two (2) standard secondary processes with passive/pond systems, and two (2) septic systems. These facilities range in influent flows from less than 20,000 gallons per day to over 150,000 gallons per day.

Q27. Are there any ongoing operational challenges that need to be addressed with the plants?

A27. California American Water handles the operational challenges of the Monterey Wastewater District on a daily basis and annually balances the cost to wastewater customers and investments in the wastewater systems. Operational challenges include ongoing maintenance related to safety, automation, and general mechanical repairs of the plants. This maintenance is often required to be performed on an emergency basis due primarily to the active systems' aging plants that are needing significant rehabilitation or replacement.

B. Water Quality

Q28. Could you summarize any current regulatory impacts in the Central Division wastewater systems?

A28. Yes, currently, all our wastewater treatment plants, except our two septic systems, have ongoing challenges meeting discharge permit requirements. These permit requirement challenges relate to compliance items such as total dissolved solids ("TDS") sodium levels, biochemical oxygen demand/total suspended solids ("BOD/TSS") removal, and nitrogen level removal. Proactive steps, in coordination with Central Coast Regional Water Quality Control Board ("Regional Board") staff, have recently been taken to address many of these challenges. Examples include installing aerators at Oak Hill to help BOD/TSS removal and customer education notifications on water softeners for reduction in TDS sodium levels.

Q29. Are there any more recent or upcoming changes in regulatory requirements that impact the Central Division wastewater systems?

A29. Yes, the Regional Board has issued a new General Permit for systems with flows greater than 100,000 gallons per day ("GPD") into which four of the Monterey District's wastewater facilities have been or will be enrolled. The new permit includes more rigorous effluent standards which have already resulted in increased capital investments,

but which will require significantly more additional investments in order to comply. The Regional Board has also reinitiated a previously issued General Permit for systems with flows less than 100,000 GPD that will impact two of the Monterey District's facilities.

As a result, Regional Board is requiring California American Water to update Title 22 Engineering Reports for the recycled water systems, which include Las Palmas, Pasadera, Carmel Valley Ranch, and Indian Springs. These updates include new requirements for nitrogen removal, disinfection, and turbidity removal. Additionally, the Regional Board has a new General Permit for Large Wastewater Systems, which include Oak Hills, Las Palmas, Pasadera, and Spreckels. The permit will have new requirements for nutrient removal, BOD/TSS removal, and TDS levels.

Q30. Will any of wastewater treatment plants require significant capital improvement projects in order to meet these new regulatory requirements?

A30. Yes, the most significant upgrades will be required at Spreckels, Las Palmas, and Indian Springs. Engineering is currently evaluating options of rehabilitating the existing treatment processes or retiring the aging treatment systems and consolidating the wastewater systems by routing their collection systems to M1W's existing treatment plant. California American Water does not want to change rates significantly to address these needs without adequate planning and notice to customers. Consequently, California American Water will submit a subsequent filing with the Commission when the preliminary project planning and cost estimates are complete. This future capital project and need are discussed in more detail in Section XVI of the Direct Testimony of Ian Crooks.

Q31. Does this conclude your testimony?

A31. Yes.